

WHAT IS CLAIMED IS:

1. An expandable stent comprising:
a polymer wire extending spirally in a first direction about a longitudinal axis of the expandable stent; and
a metal wire extending spirally in a second direction about the longitudinal axis, the second direction being counter to the first direction.
2. The expandable stent of claim 1, wherein the metal wire includes a shape memory material.
3. The expandable stent of claim 2, wherein the shape memory material comprises a titanium alloy.
4. The expandable stent of claim 1, wherein the metal wire has an oval cross-sectional area.
5. The expandable stent of claim 1, further comprising a plurality of polymer wires spirally extending along the first direction.
6. The stent of claim 5, further comprising a wire comprising a shape memory material extending along the first direction.
7. The stent of claim 5, further comprising a plurality of metal wires spirally extending along the second direction.
8. The expandable stent of claim 1, wherein the polymer wire comprises polyethylene.
9. The expandable stent of claim 10, wherein the polymer wire comprises high density polyethylene.

10. The expandable stent of claim 9, wherein the polymer wire has a modulus of elasticity between about 10 GPa and about 80 GPa.
11. The expandable stent of claim 9, wherein the polymer wire has a tensile strength of about 1.2 GPa.
12. The expandable stent of claim 9, wherein the polymer wire is treated with a plasma.
13. The expandable stent of claim 12, wherein the plasma comprises a cold oxygen plasma.
14. The expandable stent of claim 12, wherein at least a portion of the polymer wire is coated with a plastic.
15. The expandable stent of claim 1, wherein the polymer wire forms a first angle with the longitudinal axis and the metal wire forms a second angle with the longitudinal axis, the first angle being equal the second angle.
16. The expandable stent of claim 1, wherein the polymer wire forms a first angle with the longitudinal axis and the metal wire forms a second angle with the longitudinal axis, the first angle being different than the second angle.
17. The expandable stent of claim 16, wherein the first angle is less than 35 degrees.
18. The expandable stent of claim 17, wherein the polymer wire is substantially parallel to the longitudinal axis.
19. The expandable stent of claim 16, wherein the second angle is between about 35 degrees and about 90 degrees.
20. The expandable stent of claim 19, wherein the second angle is between about 60

degrees and about 85 degrees.

21. The expandable stent of claim 1, wherein the metal wire does not form a closed loop within the expandable stent.

22. The expandable stent of claim 1, wherein the metal wire is visible on a magnetic resonance image.

23. The expandable stent of claim 1, further comprising a bioabsorbable material including a drug on a surface of the expandable stent.

24. The expandable stent of claim 23, wherein the surface is an inner surface of the expandable stent.

25. The expandable stent of claim 23, wherein the surface is an outer surface of the expandable stent.

26. The expandable stent of claim 1, wherein the expandable stent is self expandable.

27. An expandable stent comprising:

a polymer wire extending substantially parallel to a longitudinal axis of the expandable stent; and

a metal wire extending substantially perpendicular to the longitudinal axis, the metal wire contacting the polymer wire.

28. The expandable stent of claim 27, wherein the metal wire has a sinusoidal shape.

29. The expandable stent of claim 28, wherein the metal wire is formed in to a C shape.

30. The expandable stent of claim 28, wherein the metal wire is formed in to a ring.

31. The expandable stent of claim 27, further comprising a plurality of metal wires extending substantially perpendicular to the longitudinal axis.
32. The expandable stent of claim 31, wherein the plurality of metal wires include a first metal wire comprising a first metal and a second metal wire comprising a second metal, wherein the first metal differs from the second metal.
33. The expandable stent of claim 27, wherein the metal wire is visible on a magnetic resonance image.
34. The expandable stent of claim 27, wherein the polymer wire comprises polyethylene.
35. The expandable stent of claim 34, wherein the polymer wire comprises high density polyethylene.
36. The expandable stent of claim 35, wherein the polymer wire is treated with a plasma.
37. The expandable stent of claim 36, wherein at least a portion of the polymer wire is coated with a plastic.
38. The expandable stent of claim 27, wherein the polymer wire comprises a biodegradable polymer.
39. The expandable stent of claim 38, wherein the polymer wire includes a drug within the biodegradable polymer.
40. The expandable stent of claim 27, further comprising a plurality polymer wires extending substantially parallel to the longitudinal axis.

41. The expandable stent of claim 40, wherein the plurality of polymer wires includes an inner wire positioned on an inner surface of the expandable stent and an outer wire positioned on an outer surface of the expandable stent.
42. The expandable stent of claim 41, wherein the inner wire is fused to the outer wire.
43. The expandable stent of claim 40, wherein the plurality of polymer wires comprises four polymer wires.
44. The expandable stent of claim 40, wherein the plurality of polymer wires comprises six polymer wires.
45. The expandable stent of claim 40, wherein the plurality of polymer wires comprises eight polymer wires.
46. The expandable stent of claim 27, wherein the polymer wire includes an aperture and the metal wire is positioned within the aperture.
47. The expandable stent of claim 27, wherein the expandable stent is balloon expandable.
48. An expandable stent comprising:
a polymer wire; and
a metal wire contacting the polymer wire,
wherein the polymer wire is arranged such that substantially no plastic deformation of the polymer wire occurs during expansion of the expandable stent and the metal wire is arranged to axially strengthen the expandable stent.
49. The expandable stent of claim 48, wherein the metal wire does not form a closed loop within the expandable stent.

50. The expandable stent of claim 48, wherein the metal wire is visible on a magnetic resonance image.
51. The expandable stent of claim 48, wherein the expandable stent is self expandable.
52. The expandable stent of claim 48, wherein the expandable stent is balloon expandable.
53. The expandable stent of claim 48, wherein the metal wire comprises titanium.
54. The expandable stent of claim 48, wherein the metal wire comprises a titanium alloy.
55. The expandable stent of claim 48, wherein the metal wire has an oval cross-sectional area.
56. The expandable stent of claim 48, wherein the polymer wire comprises polyethylene.
57. The expandable stent of claim 56, wherein the polymer wire comprises high density polyethylene.
58. The expandable stent of claim 57, wherein the polymer wire is treated with a plasma.
59. The expandable stent of claim 58, wherein at least a portion of the polymer wire is coated with a plastic.
60. The expandable stent of claim 48, wherein the polymer wire is substantially parallel to a longitudinal axis of the expandable stent.
61. The expandable stent of claim 48, wherein the polymer wire comprises a biodegradable polymer.

62. The expandable stent of claim 61, further comprising a drug in the biodegradable polymer.
63. An expandable stent comprising:
a polymer member extending spirally in a first direction about a longitudinal axis of the expandable stent; and
a metal member extending spirally in a second direction about the longitudinal axis, the second direction being counter to the first direction.
64. The expandable stent of claim 63, wherein the metal member includes a shape memory material.
65. The expandable stent of claim 63, wherein the polymer member forms a first angle with the longitudinal axis and the metal member forms a second angle with the longitudinal axis, the first angle being equal the second angle.
66. The expandable stent of claim 63, wherein the polymer member forms a first angle with the longitudinal axis and the metal member forms a second angle with the longitudinal axis, the first angle being different than the second angle.
67. The expandable stent of claim 63, wherein the polymer member is substantially parallel to the longitudinal axis.
68. The expandable stent of claim 63, wherein the metal member does not form a closed loop within the expandable stent.
69. An expandable stent comprising:
a polymer member extending substantially parallel to a longitudinal axis of the expandable stent; and
a metal member extending substantially perpendicular to the longitudinal axis, the metal member contacting the polymer member.

70. The expandable stent of claim 69, wherein the metal member has a sinusoidal shape, a C shape, or a ring shape.
71. The expandable stent of claim 69, further comprising a plurality of metal members extending substantially perpendicular to the longitudinal axis.
72. The expandable stent of claim 69, wherein the polymer member comprises a biodegradable polymer.
73. The expandable stent of claim 69, further comprising a plurality polymer members extending substantially parallel to the longitudinal axis.
74. An expandable stent comprising:
a polymer member; and
a metal member contacting the polymer member,
wherein the polymer member is arranged such that substantially no plastic deformation of the polymer member occurs during expansion of the expandable stent and the metal member is arranged to axially strengthen the expandable stent.
75. The expandable stent of claim 74, wherein the metal member does not form a closed loop within the expandable stent.